

# ElectroSense

Marko Vukasinovic, Katie Canedo, Alexis Haley, Aveisha Maharaj, and Kayla Mastin

Faculty Advisor: Dr. Khaled Salhoub

Client: Dr. Venkat Keshav Chivukula

## 1. Progress of current Milestone (progress matrix)

Task	Progress	Kayla	Alexis	Marko	To do
1. Implement, test & demo <i>Heart Rate</i>	100%	10%	0%	90%	Complete
2. Implement, test & demo <i>Pulse Oximetry</i>	50%	10%	10%	50%	Implement planned out integration
3. Implement, test & demo Temperature Sensor	50%	10%	10%	50%	Implement planned out integration

2. Discussion (at least a few sentences, ie a paragraph) of each accomplished task (and obstacles) for the current Milestone:
  - Task 1: We have created a breadboard with an Arduino Uno, AT-09 BLE module, and two pulse rate sensors. The breadboard actively sends out the sensor data over Bluetooth which then gets read by the iOS application and displayed to the user. While working on the project, we encountered an issue, setting us back by a week. After many attempts to fix the issue by the software team, the cause was actually determined to be hardware miswiring.
  - Task 2: One of the major worries of our project was making sure that all of the sensors send data in unison with each other, as different sensors have different baud rates and signal processing libraries. Through the integration of the BLE module with the Pulse Rate sensors, we had to solve this issue which will make further implementation easier. Due to delays in module ordering, miswiring difficulties, etc, we have not fully implemented this module. However, their implementation is going to be completed in a timely manner as we have a tested method of implementation.
  - Task 3: Due to delays in module ordering, miswiring difficulties, etc, we have not fully implemented this module. However, their implementation is going to be completed in a timely manner as we have a tested method of implementation.
3. Discussion (at least a few sentences, ie a paragraph) of the contribution of each team member to the current Milestone:
  - Kayla Mastin: Helped with writing the code for the Xcode application as well as documentation. Helped with hardware changes alongside Katie Canedo who was also instrumental in getting everything to work.
  - Alexis Haley: Helped with writing the code for the Sensor processing.
  - Marko Vukasinovic: Wrote all the required documentation, created a GitHub for the Xcode application for collaboration purposes, created a demo of the Application, wrote the Arduino code for controlling and reading from the Heart Rate sensors, wrote the code for sending the data over bluetooth to a phone.
4. Plan for the next Milestone (task matrix) or  
[skip if this is for Milestone 6]

Task	Kayla	Alexis	Marko
1. Implement, test & demo <i>Pulse Oximetry</i>	Assist with Patient Pulse Oximetry	Assist with Sensor/Arduino Programming	Sensor Programming, Implement Bluetooth Communication and make sure gathered data is compatible with app, Display Development
2. Implement, test & demo Temperature Sensor	Assist with Temperature Sensor	Assist with Sensor/Arduino Programming	Sensor Programming, Implement Bluetooth Communication and make sure gathered data is compatible with app, Display Development

5. Discussion (at least a few sentences, ie a paragraph) of each planned task for the next Milestone or "Lessons Learned" if this is for Milestone 6
  - Task 1: Due to hardware issues causing delays, we not completed these two milestones. However, we have come to a realization that our previous milestones were overzealous, thus we believe we are are not behind schedule on the project.
  - Task 2: The implementation of these processes will be easier and mirror the implementation and testing of the
6. Date(s) of meeting(s) with Client during the current milestone:
 

10/20/2022, 10/27/2022
7. Client feedback on the current milestone
  - Approves of our progress on the project so far.
  - Gave us guidance on how to improve our documentation as well as create project designs through various tools such as KiCad.
  - We plan on continuing the current weekly meeting schedule with him.
8. Date(s) of meeting(s) with Faculty Advisor during the current milestone: ...
9. Faculty Advisor feedback on each task for the current Milestone
  - Task 1: ...

- Task 2: ...
- Task 3: ...
- Task 4: ...

10. Faculty Advisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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11. Evaluation by Faculty Advisor

- Faculty Advisor: detach and return this page to Dr. Chan (HC 214) or email the scores to [pkc@cs.fit.edu](mailto:pkc@cs.fit.edu)
- Score (0-10) for each member: circle a score (or circle two adjacent scores for .25 or write down a real number between 0 and 10)

Marko Vukasi noivc	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
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■ Faculty Advisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_